

AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings include changes to Fig 5 and Fig. 6. The sheets, which include Fig 5 and Fig. 6, replaces sheet the original including Fig 5 and Fig. 6.

Enclosure(s): Replacement Sheets: Two (2)

REMARKS

Claims 1-4 are pending in the application.

Drawings has been objected to because of various informalities.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Takedomi (US 5,087,844).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shikayama (US 6,731,029) in view of Takedomi (US 5,087,844).

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shikayama (US 6,731,029) in view of Takedomi (US 5,087,844) and further in view of AAPA.

Drawings

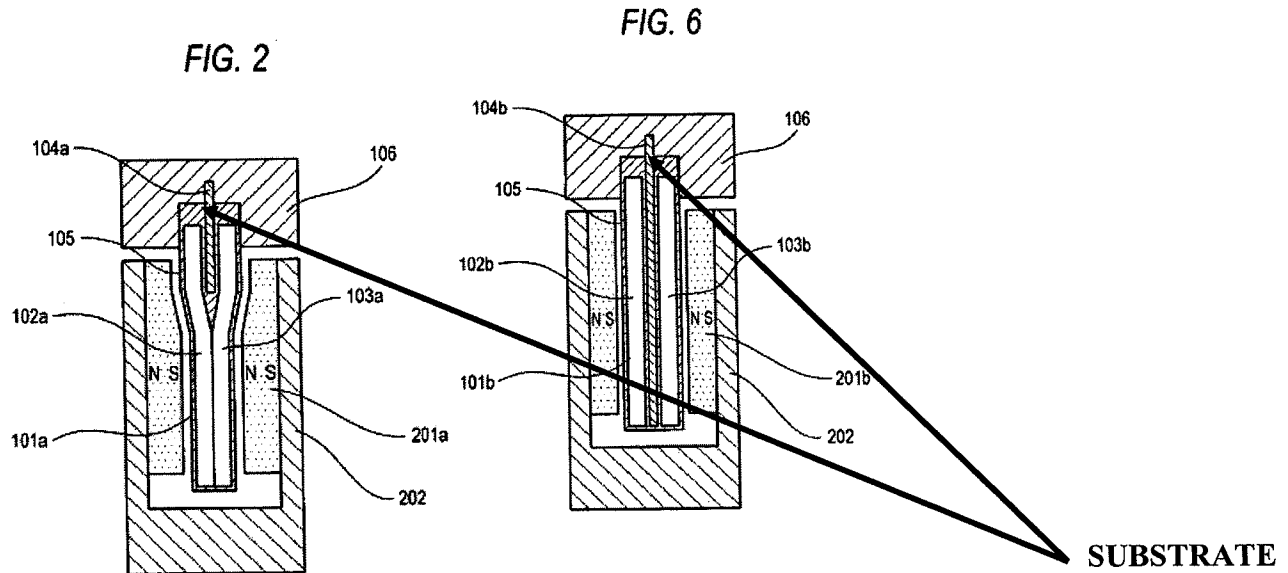
The Examiner has objected to the Drawings because of various informalities. We propose submitting revised drawings with Figs. 5 & 6 duly marked "Prior Art" to overcome the noted objections.

Claim Rejections Under 35 U.S.C. 103(a)

Rejection of Claims 1 and 2 as being unpatentable over AAPA in view of Takedomi.

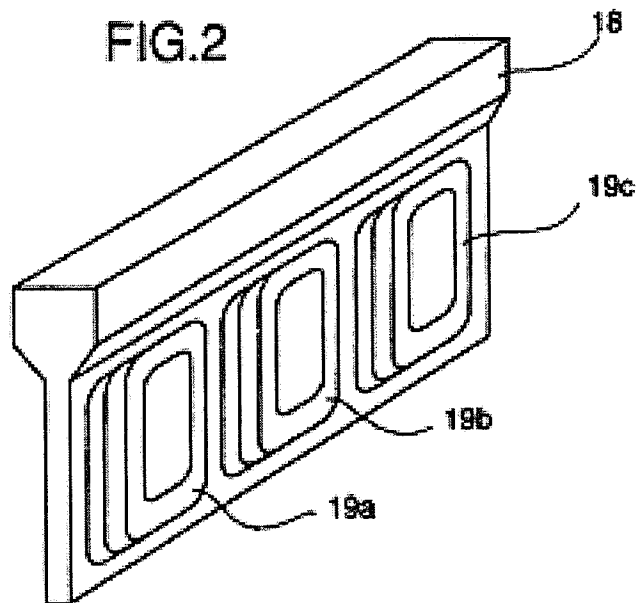
The present invention, as recited in amended claim 1, is a coreless linear motor that is structured to reduce a magnetic gap between the two rows of left and right armature coils. The structure of the present invention also leads to reduced energy loss and lessening of the temperature rise because of the energy loss. Importantly, the present invention (as recited in claim 1) requires at least one end of the two rows of armature coils in the direction perpendicular to the direction of a magnetic gap between the rows of magnet be branched into two parts. Further, a substrate for connecting the coils is inserted into the gap between the branching parts.

Cross section of the linear motor according to the present invention (as recited in amended claim 1), as well as the admitted prior art of Fig. 6 of the present Specification are reproduced below to illustrate the differences therein.



For example, in the admitted prior art of Fig.6, the substrate 104b is positioned all along the longitudinal section in between the armature coils 102b and 103b. On the other hand, in the present invention the substrate 104a is positioned only in the gap that is formed between the branching ends of the armature coils 102a and 103a.

The Examiner admits to the above difference between the admitted prior art and the present invention. However, the Examiner contends that Takedomi overcomes the deficiency noted in the admitted prior art. The Examiner refers to Figs. 1 and 2 of Takedomi. Fig. 2 of Takedomi showing the substrate 18 and the coils 10a-19c is reproduced below.



As is clear from the figure above, the armature coils are not attached and branched at one end into two parts as required by the present invention. The coil frame 18, which the Examiner reads on the substrate of the present invention, stretches all the way from the top portion of the coil to the bottom portion of the coil. In that sense, Takedomi is no different from the admitted prior art of Fig. 6 of the present Specification. The Examiner is believed to be mischaracterizing the structure of Takedomi in alleging that in the above structure, the armature coils 19a-19c branch at least at one end to define a gap in which the substrate 18 is positioned.

A skilled artisan would not have found it obvious to make a linear motor at least with the substrate positioned at a gap between a branched end of the armature coils as in the present invention.

Claim 2 is dependent on claim 1 and is allowable at least for the same reasons.

Rejection of Claim 3 as being unpatentable over Shikayama in view of Takedomi

Claim 3 relates to a canned linear motor with all the features discussed above in relation to claim 1. The Examiner has again relied on Takedomi (as opposed to Shikayama) for its

alleged teaching related to the positioning of the substrate. Therefore, the arguments discussed above regarding the differences between the present invention and Takedomi in relation to claim 1 are equally valid.

Rejection of Claim 4 as being unpatentable over Shikayama in view of Takedomi and further in View of AAPA.

Claim 4 is dependent on claim 3 and is allowable at least for the same reasons.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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